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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/805,336

03/22/2004

Robert W. Langlois

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7590

05/01/2006

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EXAMINER

PARKER, FREDERICK JOHN

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/805,336

Applicant(s)

LANGLOIS, ROBERT W.

Examiner

Frederick J. Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/22/04; 8/10/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The current abstract is too generic, generally repeating current claim 1, which is subject to amendment.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title is generic and is not indicative of the invention to which the claims are directed.

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4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claim 8 recites primer which does not appear mentioned in the specification; however, the description of page 11, paragraph 3 is that of a primer, and the Examiner reads it as a primer; it is suggested Applicants at least name the material a primer since a primer protects surfaces and allows improved adherence of subsequently applied coatings.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-3,12,14,15,17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 1; “substrates” (plural) and “hot substrate” lack proper antecedent basis.
- Claim 2; “substrates” (plural) lacks proper antecedent basis.
- Claims 3” adhesive/ primer” lacks proper antecedent basis.
- Claims 12,15 are vague and indefinite because the relative term “quickly” does not convey the intended temperature rate, it is not understandable by one of ordinary skill, and is not defined.
- Claim 14; “additional layer” lacks proper antecedent basis.
- Claim 17: “sealer” (alone) lacks proper antecedent basis.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-6,10,14,23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leach US 5338578 in view of Koenig US 4885187.

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Leach teaches the application of thermosetting powder coatings to plastic substrates, including thermosetting molded plastics (col. 2, 29-42), comprising the steps of washing the substrate to remove residue (contamination) from the molding process; passing the part through an oven for drying and degassing (to prevent defects/ popping), as well as achieving a substrate temperature so that powder may be immediately applied to the hot substrate; applying the powder coating material “by any conventional powder coating method such as fluidized bed or spraying” to a desired coating thickness; and curing the powder coated substrate using infrared (heat). The process is automatically carried out using an overhead conveyor system. Col. 4,61- col. 6, 11. A finish coat may be subsequently applied by similar conventional means and cured, the use of a powder coat being obvious for application to another powder for adhesion and ease of curing, per claim 23. Applying an “adhesive/ sealer” coat (which the examiner interprets as a primer coat; see above) is not cited.

Koenig teaches a similar continuous process for applying powder coatings to articles which may be made of plastic (including polyamides/ nylon, col. 7, 5-10 and col. 9, top), in which a substrate is cleaned to remove contamination which interferes with wetting of subsequently applied coatings and then primed to improve adherence of a subsequently applied thermoplastic or thermosetting powder coating material; preheating the substrate and then applying coating powder which adheres to hot exposed portions, followed by heating to cure the applied coating. While the reference does not cite temperatures lower than the Vicat melting point per claims 24-26, it is the Examiner’s position that the materials of the reference encompasses such temperatures. When a reference discloses the limitations of a claim except for a property, and the Examiner cannot determine if the reference inherently possesses that property (in this case, Vicat

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melting point temperatures), the burden is shifted to Applicant/s, In re Fitzgerald 205 USPQ 594 and MPEP 2112.

The application of plural powder coatings, per claims 2-3, in the same manner would have been an obvious modification within the purview of one skilled in the art to provide a coating build-up of desired thickness.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the thermosetting coating process of Leach by incorporating the primer after washing as taught by Koenig to achieve the express benefit of improving adherence of the uniform, pore-free coating to the plastic substrate.

11. Claims 9,11-13,15,16,19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leach US 5338578 in view of Koenig US 4885187 and further in view of Liberto.

Leach and Koenig are cited for the same reasons previously discussed, which are incorporated herein. Curing the thermoset powder in a combination IR and convection oven system is not cited,. However, Liberto teaches on page 154 that dual-type ovens using a combination IR and convection oven system to provide curing of powder coatings are known , and provide the benefits of using IR first to melt and adhere the powder in a “quiet zone” after which convection heating completes the curing without loss of powder, per claims 11-12. Time and temperature are cause effective variables known in the art because equivalent outcomes may be achieved by altering time versus temperature, per claim 22. The product with one or more coatings would necessarily be removed from the conveyor rack to provide the article with functional utility, per claim 16. As to claims 19-21, the temperature of the powder and substrate would have been

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determined based upon the thermal characteristics of the powder composition to be applied and the time at temperature, as would have been evident given the guidance of Leach, col. 5, 2-36, and exemplified by 121-177C which overlaps Applicants' curing temperature ranges. The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made if the overlapping portion of the heating temperatures disclosed by the reference were selected because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Wortheim* 191 USPQ 90. The teaching of maintaining specific substrate temperatures would have reasonably suggested to monitor substrate temperatures to allow consistent melt and flow of applied powder coating. Minimizing humidity becomes an obvious process parameter given the teachings of Leach col. 1 which teaches against the presence of vaporous species which would enter the pores of the plastic substrate and cause defects in the product due to the well-known phenomenon of "popping".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the method of Leach in view of Koenig using a dual combination IR-convection oven system as taught by Liberto to cure the applied powder coating uniformly and without loss of applied powder.

12. Claims 7,8,17,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leach US 5338578 in view of Koenig US 4885187 and further in view of Maekawa et al US 2002/0040098.

Leach and Koenig are cited for the same reasons previously discussed, which are incorporated herein. Application method and specific primer are not cited.

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Maekawa et al teaches applying aqueous polymeric primer coatings to polymer substrates which are then coated with polymeric compositions to improve adhesion of the subsequently applied coating [0086]. Application of primer is by spraying, and afterward the primer coating is heated for drying/ annealing (interpreted same as “curing”) at 100-130 C, see Examples, table 5. Where the principle difference between a claimed process and that of a reference is a temperature difference, it is incumbent upon Applicant to establish criticality of the difference, Ex parte Khusid 174 USPQ 59. After coating the primed substrate, the multiple-coated substrate is cured [0090].

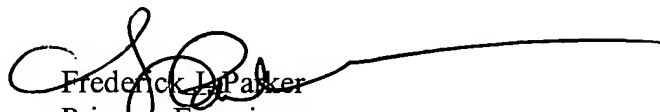
It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the method of Leach in view of Koenig for coating plastic substrates with thermoset coatings by utilizing the primer composition of Maekawa et al as the primer because the primer is taught for use with plastic substrates to improve adhesion of a subsequently applied coating.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Frederick L. Parker
Primary Examiner
Art Unit 1762

fjp